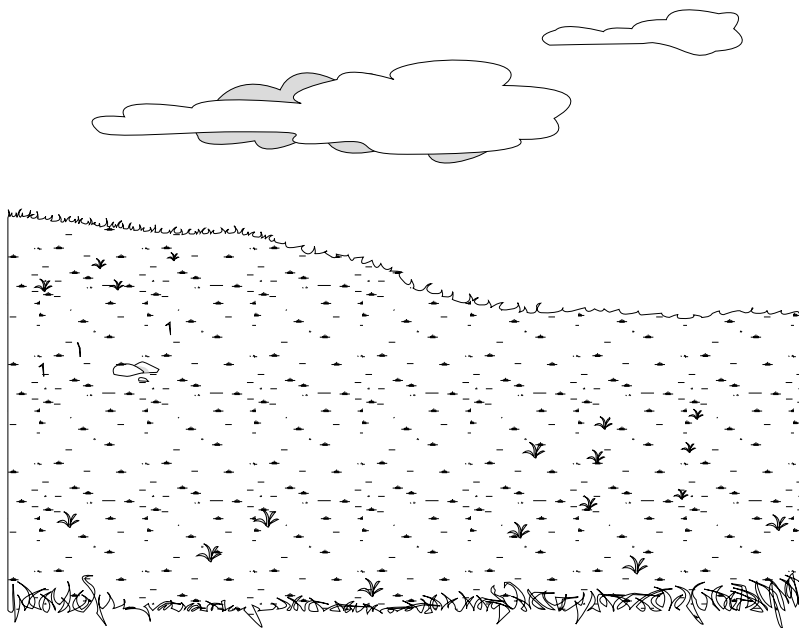


Enhancing Natural Revegetation



Natural revegetation is the process of native plants re-establishing on disturbed or spill-affected sites through natural succession without seeding or planting. Natural revegetation is appropriate under any of the following conditions:

- Actions to prepare soil for seeding or planting may cause more physical damage and slower overall recovery than natural recovery.
- Establishing a ground cover quickly is not needed to prevent erosion from wind or runoff.
- The spill site is remote and soil preparation for seeding or planting are not practicable.
- Seeding or planting would interfere with eventual re-establishment of natural tundra plants.

Allowing a disturbed tundra site to revegetate naturally is generally preferred when the long-term goal is to restore natural tundra plant communities. In the long term, natural revegetation provides the best results for site aesthetics. Long-term observations have shown that manipulated sites (sites that are seeded and fertilized to provide quick ground cover) initially produce higher cover and density of vascular plants than unmanipulated sites (McKendrick, 1997a). Ultimately, however, the plant communities that become established at manipulated sites may differ from those that grew there previously.

The following tactics may be used to *enhance* natural revegetation:

- Apply fertilizer (Tactic T-17) to the perimeter of a spill site to increase the seed production and vegetative growth of the surrounding plant community (McKendrick, 1983b). The wind and wildlife can spread the seeds onto the site.
- Collect seed from adjacent appropriate stands of appropriate species and apply to site (Tactic T-21).
- Extend the growing season (Tactic T-20).

APPLICABILITY

	APPLICABILITY	COMMENTS
SPIILLED SUBSTANCE	All	<ul style="list-style-type: none"> • More applicable for small amounts of non-persistent substances. • Crude oil and diesel can make the soil hydrophobic (unwetterable) and anaerobic (no air). These conditions must be corrected for plants to establish.
TUNDRA TYPE	All	<ul style="list-style-type: none"> • Wet tundra recovers naturally from both physical and chemical damage more quickly than dry tundra.
SEASON	All	<ul style="list-style-type: none"> • See individual enhancement tactics for seasonal applicability.

CONSIDERATIONS AND LIMITATIONS

- Analyze soil properties (Tactic AM-4) to evaluate whether natural revegetation is feasible. (If the spill residual has created excessively acidic, alkaline, or saline conditions in the soil, adjacent native plants may not re-establish there.)
- Concentration of spilled substance in soils cannot be phytotoxic (plant-killing).
- Monitor the site (Tactic AM-5) for several growing seasons to evaluate revegetation trends. Note that as a recovering site goes through natural succession, the interim stages usually will not resemble the final community.
- Natural revegetation requires 15 to 30 years to restore the plant cover and diversity to pre-disturbance values.
- Using fertilizer on or near a site may encourage invasive “weedy” plants that can inhibit re-establishment of natural tundra plant communities.